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Direzione Generale per lo Sviluppo Produttivo e la Competitività

Ufficio Italiano Brevetti e Marchi

Ufficio G2



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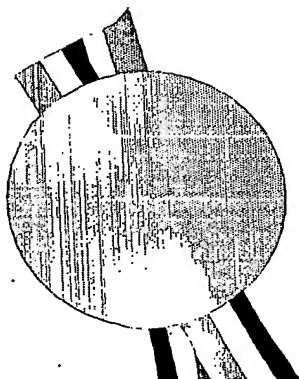
N. PCT/IT03/00534 del 06.09.2003.

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IL FUNZIONARIO

Ing. Giovanni de Sanctis

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

RECORD COPY

For receiving Office use only

PCT/IT 03 / 00534

International Application No.

06 SEP 2003 06 / 09 / 03

International Filing Date

MINISTERO DELLE ATTIVITA' PRODUTTIVE

UFFICIO ITALIANO BREVETTI E MARCHI

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum)

Box No. I TITLE OF INVENTION

AN AUTOMATED MULTI-FUNCTION DESK DEVICE FOR USE IN A POST OFFICE

Box No. II APPLICANT

☒ This person is also inventor

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

ABATE Valerio
VIA GENOVA 15
21047 SARONNO
ITALY

Telephone No.
+39 348 3592593

Facsimile No.

Teleprinter No.

Applicant's registration No. with the

State (that is, country) of nationality:

ITALY

State (that is, country) of residence:

ITALY

This person is applicant for the purposes of:

☒ all designated States

☐ all designated States except the United States of America

☐ the United States of America only

☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

CONTI Alberto
VIA NIRONE 10
20100 MILANO
ITALY

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

ITALY

State (that is, country) of residence:

ITALY

This person is applicant for the purposes of:

☒ all designated States

☐ all designated States except the United States of America

☐ the United States of America only

☐ the States indicated in the Supplemental Box

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☐ agent

☐ common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

Telephone No.

Facsimile No.

Teleprinter No.

Agent's registration No. with the Office

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

6/9/2003
PCT
PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

RECORD COPY

MINISTERO DELL'INDUSTRIA
DELLA COMMERCIO E DELL'ARTIGIANATO
Ufficio di Roma - Ufficio Patenti
00100 Roma - Via M. Perugina, 10

International Application No. 861289

International Filing Date 86.12.89

Prot. No. 861289

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference (if desired) (12 characters maximum)

Box No. I TITLE OF INVENTION	
An automated multi-function desk device for use in a post office	
Box No. II APPLICANT <input checked="" type="checkbox"/> This person is also inventor	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	Telephone No. 348 3592593 (+39)
ABATE VALERIO VIA GENOVA 15 21047 SARONNO mail: valerio.abate@xnnvtrs.com	Facsimile No.
	Teleprinter No.
	Applicant's registration No. with the Office
State (that is, country) of nationality: ITALY	State (that is, country) of residence: ITALY
This person is applicant for the purposes of: <input checked="" type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	This person is:
CONTI ALBERTO VIA NIRONE 10 20100 MILANO	<input type="checkbox"/> applicant only
	<input checked="" type="checkbox"/> applicant and inventor
	<input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)
Applicant's registration No. with the Office	
State (that is, country) of nationality: ITALY	State (that is, country) of residence: ITALY
This person is applicant for the purposes of: <input checked="" type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<input checked="" type="checkbox"/> Further applicants and/or (further) inventors are indicated on a continuation sheet.	
Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: <input type="checkbox"/> agent <input type="checkbox"/> common representative	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	Telephone No.
	Facsimile No.
	Teleprinter No.
	Agent's registration No. with the Office
<input type="checkbox"/> Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.	

PCT/IT 03 / 00534

Sheet No. ... 2 ...

Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

If none of the following sub-boxes is used, this sheet should not be included in the request.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

MICHELA BIANCHI
VIA NIRONE 10
20100 MILANO
ITALY

This person is:

- ☐ applicant only
- ☒ applicant and inventor
- ☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

- ☒ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
- ☐ applicant and inventor
- ☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
- ☐ applicant and inventor
- ☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
- ☐ applicant and inventor
- ☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.

PCT/IT 03 / 00534

Sheet No. ...3...

Box No. V DESIGNATION OF STATES

Mark the applicable check-boxes below; at least one must be marked.

The following designations are hereby made under Rule 4.9(a):

Regional Patent

- ☒ **AP ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZM Zambia, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT (if other kind of protection or treatment desired, specify on dotted line)
- ☒ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP European Patent:** AT Austria, BE Belgium, BG Bulgaria, CH & LI Switzerland and Liechtenstein, CY Cyprus, CZ Czech Republic, DE Germany, DK Denmark, EE Estonia, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, HU Hungary, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, RO Romania, SE Sweden, SI Slovenia, SK Slovakia, TR Turkey, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GQ Equatorial Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> AE United Arab Emirates | <input checked="" type="checkbox"/> HR Croatia | <input checked="" type="checkbox"/> OM Oman |
| <input checked="" type="checkbox"/> AG Antigua and Barbuda | <input checked="" type="checkbox"/> HU Hungary | <input checked="" type="checkbox"/> PG Papua New Guinea |
| <input checked="" type="checkbox"/> AL Albania | <input checked="" type="checkbox"/> ID Indonesia | <input checked="" type="checkbox"/> PH Philippines |
| <input checked="" type="checkbox"/> AM Armenia | <input checked="" type="checkbox"/> IL Israel | <input checked="" type="checkbox"/> PL Poland |
| <input checked="" type="checkbox"/> AT Austria | <input checked="" type="checkbox"/> IN India | <input checked="" type="checkbox"/> PT Portugal |
| <input checked="" type="checkbox"/> AU Australia | <input checked="" type="checkbox"/> IS Iceland | <input checked="" type="checkbox"/> RO Romania |
| <input checked="" type="checkbox"/> AZ Azerbaijan | <input checked="" type="checkbox"/> JP Japan | <input checked="" type="checkbox"/> RU Russian Federation |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina | <input checked="" type="checkbox"/> KE Kenya | <input checked="" type="checkbox"/> SC Seychelles |
| <input checked="" type="checkbox"/> BB Barbados | <input checked="" type="checkbox"/> KG Kyrgyzstan | <input checked="" type="checkbox"/> SD Sudan |
| <input checked="" type="checkbox"/> BG Bulgaria | <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea | <input checked="" type="checkbox"/> SE Sweden |
| <input checked="" type="checkbox"/> BR Brazil | <input checked="" type="checkbox"/> KR Republic of Korea | <input checked="" type="checkbox"/> SG Singapore |
| <input checked="" type="checkbox"/> BY Belarus | <input checked="" type="checkbox"/> KZ Kazakhstan | <input checked="" type="checkbox"/> SK Slovakia |
| <input checked="" type="checkbox"/> BZ Belize | <input checked="" type="checkbox"/> LC Saint Lucia | <input checked="" type="checkbox"/> SL Sierra Leone |
| <input checked="" type="checkbox"/> CA Canada | <input checked="" type="checkbox"/> LK Sri Lanka | <input checked="" type="checkbox"/> SY Syrian Arab Republic |
| <input checked="" type="checkbox"/> CH & LI Switzerland and Liechtenstein | <input checked="" type="checkbox"/> LR Liberia | <input checked="" type="checkbox"/> TJ Tajikistan |
| <input checked="" type="checkbox"/> CN China | <input checked="" type="checkbox"/> LS Lesotho | <input checked="" type="checkbox"/> TM Turkmenistan |
| <input checked="" type="checkbox"/> CO Colombia | <input checked="" type="checkbox"/> LT Lithuania | <input checked="" type="checkbox"/> TN Tunisia |
| <input checked="" type="checkbox"/> CR Costa Rica | <input checked="" type="checkbox"/> LU Luxembourg | <input checked="" type="checkbox"/> TR Turkey |
| <input checked="" type="checkbox"/> CU Cuba | <input checked="" type="checkbox"/> LV Latvia | <input checked="" type="checkbox"/> TT Trinidad and Tobago |
| <input checked="" type="checkbox"/> CZ Czech Republic | <input checked="" type="checkbox"/> MA Morocco | <input checked="" type="checkbox"/> TZ United Republic of Tanzania |
| <input checked="" type="checkbox"/> DE Germany | <input checked="" type="checkbox"/> MD Republic of Moldova | <input checked="" type="checkbox"/> UA Ukraine |
| <input checked="" type="checkbox"/> DK Denmark | <input checked="" type="checkbox"/> MG Madagascar | <input checked="" type="checkbox"/> UG Uganda |
| <input checked="" type="checkbox"/> DM Dominica | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia | <input checked="" type="checkbox"/> US United States of America |
| <input checked="" type="checkbox"/> DZ Algeria | <input checked="" type="checkbox"/> MN Mongolia | <input checked="" type="checkbox"/> UZ Uzbekistan |
| <input checked="" type="checkbox"/> EC Ecuador | <input checked="" type="checkbox"/> MW Malawi | <input checked="" type="checkbox"/> VC Saint Vincent and the Grenadines |
| <input checked="" type="checkbox"/> EE Estonia | <input checked="" type="checkbox"/> MX Mexico | <input checked="" type="checkbox"/> VN Viet Nam |
| <input checked="" type="checkbox"/> ES Spain | <input checked="" type="checkbox"/> MZ Mozambique | <input checked="" type="checkbox"/> YU Serbia and Montenegro |
| <input checked="" type="checkbox"/> FI Finland | <input checked="" type="checkbox"/> NI Nicaragua | <input checked="" type="checkbox"/> ZA South Africa |
| <input checked="" type="checkbox"/> GB United Kingdom | <input checked="" type="checkbox"/> NO Norway | <input checked="" type="checkbox"/> ZM Zambia |
| <input checked="" type="checkbox"/> GD Grenada | <input checked="" type="checkbox"/> NZ New Zealand | <input checked="" type="checkbox"/> ZW Zimbabwe |
| <input checked="" type="checkbox"/> GE Georgia | | |
| <input checked="" type="checkbox"/> GH Ghana | | |
| <input checked="" type="checkbox"/> GM Gambia | | |

Check-boxes below reserved for designating States which have become party to the PCT after issuance of this sheet:

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

PCT/IT 03 / 0053

Sheet No. ... 5... 4

Box No. VI PRIORITY CLAIM

The priority of the following earlier application(s) is hereby claimed:

Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country or Member of WTO	regional application:* regional Office	international application: receiving Office
item (1)				
item (2)				
item (3)				
item (4)				
item (5)				


☐ Further priority claims are indicated in the Supplemental Box.

The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office) identified above as:

☐ all items
 ☐ item (1)
 ☐ item (2)
 ☐ item (3)
 ☐ item (4)
 ☐ item (5)
 ☐ other, see Supplemental Box

* Where the earlier application is an ARIPO application, indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed (Rule 4.10(b)(ii)):

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA /

Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year) Number Country (or regional Office)

Box No. VIII DECLARATIONS

The following declarations are contained in Boxes Nos. VIII (i) to (v) (mark the applicable check-boxes below and indicate in the right column the number of each type of declaration):

Number of
declarations

- | | | |
|---|--|---|
| <input type="checkbox"/> Box No. VIII (i) | Declaration as to the identity of the inventor | : |
| <input type="checkbox"/> Box No. VIII (ii) | Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent | : |
| <input type="checkbox"/> Box No. VIII (iii) | Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application | : |
| <input checked="" type="checkbox"/> Box No. VIII (iv) | Declaration of inventorship (only for the purposes of the designation of the United States of America) | : |
| <input type="checkbox"/> Box No. VIII (v) | Declaration as to non-prejudicial disclosures or exceptions to lack of novelty | : |

18

PCT/IT 03 / 00534

Sheet No. 5

Box No. VIII (iv) DECLARATION: INVENTORSHIP (only for the purposes of the designation of the United States of America)
The declaration must conform to the following standardized wording provided for in Section 214; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (iv). If this Box is not used, this sheet should not be included in the request.

**Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv))
 for the purposes of the designation of the United States of America:**

I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.

This declaration is directed to the international application of which it forms a part (if filing declaration with application).

This declaration is directed to international application No. PCT/..... (if furnishing declaration pursuant to Rule 26ter).

I hereby declare that my residence, mailing address, and citizenship are as stated next to my name.

I hereby state that I have reviewed and understand the contents of the above-identified international application, including the claims of said application. I have identified in the request of said application, in compliance with PCT Rule 4.10, any claim to foreign priority, and I have identified below, under the heading "Prior Applications," by application number, country or Member of the World Trade Organization, day, month and year of filing, any application for a patent or inventor's certificate filed in a country other than the United States of America, including any PCT international application designating at least one country other than the United States of America, having a filing date before that of the application on which foreign priority is claimed.

Prior Applications:

I hereby acknowledge the duty to disclose information that is known by me to be material to patentability as defined by 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the PCT international filing date of the continuation-in-part application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Valerio Abate

Residence: Saronno (Italy)

(city and either US state, if applicable, or country)

Mailing Address: Via Genova, 15 - 21047 Saronno Italy

Citizenship: ITALIAN

Inventor's Signature:
 (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

Date: 04/09/2003
 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

Name: Alberto Conti

Residence: Milano (Italy)

(city and either US state, if applicable, or country)

Mailing Address: Via Nirone 10 20100 Milano Italy

Citizenship: ITALIAN

Inventor's Signature:
 (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

Date: 04/09/2003
 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

☒ This declaration is continued on the following sheet, "Continuation of Box No. VIII (iv)".

PCT/IT 03 / 00534

Sheet No. ... 7.6

Continuation of Box No. VIII (i) to (v) DECLARATION

If the space is insufficient in any of Boxes Nos. VIII (i) to (v) to furnish all the information, including in the case where more than two inventors are to be named in Box No. VIII (iv), in such case, write "Continuation of Box No. VIII ..." (indicate the item number of the Box) and furnish the information in the same manner as required for the purposes of the Box in which the space was insufficient. If additional space is needed in respect of two or more declarations, a separate continuation box must be used for each such declaration. If this Box is not used, this sheet should not be included in the request.

Name: Michela Bianchi
Residence: Milano (Italy)
Mailing Address: Via Nirone 10 - 20100 Milano Italy
Citizenship: ITALIAN
Inventor's Signature:

Date: 04/09/2003

PCT/IT 03 / 00534

Sheet No. ... 7

Box No. IX CHECK LIST; LANGUAGE OF FILING

This international application contains:	This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):	Number of items
(a) in paper form, the following number of sheets:	1. <input type="checkbox"/> fee calculation sheet	:
request (including declaration sheets) : ^A 7 ⁸	2. <input type="checkbox"/> original separate power of attorney	:
description (excluding sequence listings and/or tables related thereto) : 5	3. <input type="checkbox"/> original general power of attorney	:
claims : 1	4. <input type="checkbox"/> copy of general power of attorney; reference number, if any:	:
abstract : 1	5. <input type="checkbox"/> statement explaining lack of signature	:
drawings : 1	6. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s):	:
Sub-total number of sheets : ^A 15 ¹⁸	7. <input type="checkbox"/> translation of international application into (language):	:
sequence listings :	8. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material	:
tables related thereto :	9. <input type="checkbox"/> sequence listings in computer readable form (indicate type and number of carriers)	:
(for both, actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (c) below)	(i) <input type="checkbox"/> copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application) :	:
Total number of sheets : ^A 15 ¹⁸	(ii) <input type="checkbox"/> (only where check-box (b)(i) or (c)(i) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter :	:
(b) <input type="checkbox"/> only in computer readable form (Section 801(a)(i))	(iii) <input type="checkbox"/> together with relevant statement as to the identity of the copy or copies with the sequence listings mentioned in left column :	:
(i) <input type="checkbox"/> sequence listings	10. <input type="checkbox"/> tables in computer readable form related to sequence listings (indicate type and number of carriers)	:
(ii) <input type="checkbox"/> tables related thereto	(i) <input type="checkbox"/> copy submitted for the purposes of international search under Section 802(b-quater) only (and not as part of the international application) :	:
(c) <input type="checkbox"/> also in computer readable form (Section 801(a)(ii))	(ii) <input type="checkbox"/> (only where check-box (b)(ii) or (c)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Section 802(b-quater) :	:
(i) <input type="checkbox"/> sequence listings	(iii) <input type="checkbox"/> together with relevant statement as to the identity of the copy or copies with the tables mentioned in left column :	:
(ii) <input type="checkbox"/> tables related thereto	11. <input type="checkbox"/> other (specify):	:
Type and number of carriers (diskette, CD-ROM, CD-R or other) on which are contained the		
<input type="checkbox"/> sequence listings:		
<input type="checkbox"/> tables related thereto:		
(additional copies to be indicated under items 9(ii) and/or 10(ii), in right column)		

Figure of the drawings which should accompany the abstract: Flg. 2

Language of filing of the international application: ENGLISH

Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

Valerio Abate Alberto Contl Michela Bianchi

For receiving Office use only		2. Drawings: <input checked="" type="checkbox"/> received: <input type="checkbox"/> not received:
1. Date of actual receipt of the purported international application: 06 SEP 2003 06 / 09 / 03	3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:	
4. Date of timely receipt of the required corrections under PCT Article 11(2):	5. International Searching Authority (if two or more are competent): ISA /	
6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid		

For International Bureau use only

Date of receipt of the record copy by the International Bureau:

PCT/IT 03 / 00534

Title: An automated multi-function desk device for use in a post office**Description**

This invention relates to an automated multi-function desk for use in a post office.

Postal employees are put under stress by the number of repetitive operations they perform. Despite common knowledge the more frustrating operations deal not with physically manipulating object to be delivered, but with the boring operations to look for writings and symbols placed on postal delivery. It is evenly more frustrating to read and write data concerning about delivery characteristics such as weight, stamp value etc. Queues or lines in post offices, comprising people waiting to interact with a postal employee, are commonplace, and are generally disliked by all concerned. The delay in being served is a potential source of frustration and annoyance to customers. An annoyed customer may take issue with, or even threaten the postal employee who he eventually meets for service.

Whilst some of the people waiting in such queues require a postal employee to carry out a relatively complex and involved service, many people only require basic counter services.

A common place to all these customer are basic operation of checking the delivery, looking for information on the sides of the delivery, weighing it, rereading and inputting the information in a device etc. etc. These operations become evenly boring both to the postal worker and to the customer.

Accordingly, it is a general object of the present invention to overcome or at least mitigate the problems and shortcomings associated with the post offices as identified above. According to a first aspect of the invention there is provided an automated multi-function desk for use in a post office, comprising a processor electrically coupled to each of: an input device operable by a user, a device for weighing items of postage, a device for capturing image, a visual display; the processor being configured to: (a) receive input from weighing device specifying the weighing of an object placed thereon; (b) receive input from image capturing device of an object placed thereon; (c) receive input from the input device specifying other necessary characteristic of the delivery; (d) process the image information in order to recognize dimensions, writing characters and/or symbols from the electronic image captured previously; (e) provide output to the visual display to show image, dimensions, writings and all recognized characteristic from the object placed thereon; and (e) operate the output device to supply storage of retrieved information for further operations such as printing, showing analysing etc.

Preferably the said output device is adapted to dispense the images captured from the postal delivery.

Preferably the automated multi-function desk further comprises an output device adapted to dispense a label with the elaborated data resume determined by the automatic reading and processing of image and weighing from the device.



Title: An automated multi-function desk device for use in a post office

Preferably the said output device is adapted to dispense postage stamps which value is determined by the automatic reading and processing of image and weighing from the device.

Preferably the said output device is adapted to print and dispense franked postage labels which value is determined by the automatic reading and processing of image and weighing from the device.

Preferably the said output device is adapted to print and dispense a shipping label which terms are determined by the automatic reading and processing of image and weighing from the device.

Preferably the payment acceptance device comprises a cash acceptance and discrimination device.

Preferably the automated multi-function desk further comprises an output device adapted to print and dispense a payment receipt which value is determined by the automatic reading and processing of image and weighing from the device.

Preferably the visual display is a low thickness, touch sensitive (LCD, FLCD, OLED etc.).

Particularly preferably, the processor, the input devices, the weighing system, the visual display, the payment device, and the output devices are connectable in different units within the post office local or global network.

By removing the need for the employee to turn the postal object, to read and digitise data such as weight, stamp values, addressee etc. it is reduced the probability of errors in expeditions and charges. The employee has the function to control the data and the customer itself, through the display unit could check and aid the employee in its simpler and more effective role of controller instead of being frustrated by not participating to the operation on its own postal deliveries.

Embodiments of the invention will now be described, by way of example, and with reference to the drawings in which: Figure 1 illustrates a section front view of an automated multi-function desk for use in a post office, in accordance with the invention; Figure 2 illustrates a top view from above of the automated multi-function desk shown in Figure 1; Figure 3 is a procedural flow diagram illustrating a user's interaction with the automated multi-function desk; and Figure 4 is a system architecture diagram illustrating schematically the interconnection of principal components of the multi-function desk, and its connection to a telecommunications network.

An example of an automated multi-function desk in accordance with the invention is illustrated in Figures 1 and 2. The multi-function desk integrally comprises a working plane 50 having supports 60 mounted on a frame 30. The post office desk 20 supports the system trough frame 30 or directly trough supports 60. Supports 60 have the characteristics to act as load cells, in case the frame 30 or the working plane 50 could work as load cells, too.

An image-capturing device 10 is suspended below the working plane 50 with positioning elements 70. The image-capturing device 10 has capability to regulate the distance from the working plane 50 by

PCT/IT 03 / 0053

Title: An automated multi-function desk device for use in a post office

itself or through the modification of geometry of positioning elements 70. This function is needed to guarantee proper view angle and image quality for the object 40 on the working plane 50.

The working plane 50 is made of transparent material in case image-capturing device 10 is mounted on the opposite side of the working plane 50 in respect of object 40, it could be opaque if image-capturing device 10 is mounted on the same side of the working plane 50 in respect of object 40.

To reach the best performance of the automated multi-function desk two image-capturing devices 10 could be mounted in the device, one for each side of the working plane 50; in alternative working plane 50 could be realized movable (for example could be rotated while the object is kept in position by suitable stoppers).

Image-capturing device 10 could be positioned aside of the device looking in transversal direction with a mirror or prismatic device directing the light rays coming from the object 40 to the image-capturing device 10.

In Fig.2 is specifically represented an object such as a mail delivery. The load cell 60 displaces the working plane and gives a signal (analogue or digital depending on the mounted device) proportional to the weight of object. The image-capturing devices 10 capture an image of the object. In order to facilitate analysis of the dimension of object 40 a reticule 100 or similar is included in the image. The reticule 100 divisions are of known dimensions, the reticule 100 could be signed or drawn directly on working plane 50, projected through illumination system or superimposed even temporarily by a software function.

Processing the image identifies specific areas on object 40. These areas are for example stamp area 80, address area 90 etc.

In specific identification of stamp area 80 allows analysing stamp image and correlating with stamp database through apparent colours, sub-area colours etc. in order to retrieve stamp value and validity. The retrieved information allows calculating the paid fee. The same functionality could be used in case not stamps but other marking, such as fee value marks are printed directly on documents.

More variable area are the addressee areas 90 (sender, receiver) from both side of the documents, these areas contain specific information concerning the origin and the end of expedition such as (country, city, address, name, family name and ZIP codes). Actually character recognition is not perfect for words if the nature is generic, but a good improvement is possible if an union with a supporting database of locations and codes is available to refine the OCR in case of ambiguity: more specifically if ZIP code is present it is known that number recognition is better performed and much more easy than alphabetic characters.

Other information could be image-captured and recognised such as: the presence of a air-mail stick, the presence of a priority or special issue stick,

PCT/IT 03 / 0053.

Title: An automated multi-function desk device for use in a post office

the marking of a field within a pre-stamped form or marking indicating assured expedition etc.

With the all the relevant information acquired by the multi-function desk devices as described above it is possible to propose to the postal worker the fee to be paid according to weight, dimensions and route of the postal object. As second advantages any ambiguity and inconsistency of the postal object 40 could be identified pointed out both to the employee and to the customer in order to allow a contextual triple check of the mailing procedure.

It will be appreciated that alternative configurations of these components may readily be used to implement the invention. In particular, the components need not be integrated in a single unit, but may exist as separate components, provided for an employee's/customer's use within a post office environment.

Turning now to each of the components in turn:

In a preferred embodiment of the invention, the image-processing unit is a CCD device with definition capability of at least 200 pixel per square inches, this definition demonstrated to be the minimal in order to capture the image allowing further efficient and correct processing.

Colour resolution is not mandatory, but it facilitates the identification of marks, stamps, sticks, and others.

A CMOS system could be used instead of CCD system allowing economical advantages but requiring more image elaborations. However, it will be appreciated that alternative image-capturing units having similar functionality may be used instead.

Under the control of the internal processor, a plurality of postage and delivery options are displayed on the screen, the options elaborated by the system through the data acquired by the multi-function desk being put in evidence and accepted if everything is correct by a single employee's action like a push button on a touch-sensitive screen or a key board or a mouse or a pad. These options are, for example, the destination of the delivery, the class or category of postage, whether air mail or surface mail is required, whether certified recorded delivery or special delivery is needed, and so on. All the options that would conventionally be offered to a customer by a postal worker may be represented by on-screen icons in such a manner, with data automatically recognized by the system highlighted. If some erroneous information, unrecognised the multi-function desk reports area, void in information retrieval etc., the relevant image part or corresponding icon is marked in red and shown to the employee/customer.

The employee is simply required to touch on the screen or push the keyboard or use the mouse in order to select an option of their choice, input a correct data or accept the correction from the system and save the data in the local or network database. An option may also be provided for the user to input the delivery

PCT/IT 03 / 00534

Title: An automated multi-function desk device for use in a post office

address, for printing onto a shipping label as will be discussed below.

A conventional non-touch-sensitive visual display unit may alternatively be used together with employee/user input means such as buttons or a keyboard.

The postage cost in respect of the delivery option produced by the multi-function desk or selected will depend on the weight and all other information as described above from the item of mail being sent. The evaluation has been performed as described above by the processor that calculates the appropriate postage charge and checks its conformity with the information available from the multi-function desk.

A variety of payment options are offered to the customer and connected to the device directly or through a network. A payment card reader may be provided to read credit or debit cards, which may be inserted via the slot or in alternative the card could be put on the working plane 50 and the activation of a specific function allows for the reading of card type, code and from the backward image-capturing device for the signature of the customer to be compared with the signature made by the customer on the receipts. Alternatively, for those customers wishing to pay by cash, a cash acceptance and discrimination device may also be provided. This comprises a slot for the acceptance of coins, and a second slot to receive notes or bills. Discrimination devices, as known to those skilled in the art, are provided behind these two slots.

With respect to the payment card reader functionality, the multi-function desk may be permanently connected to a telecommunications network such that the payment card reader may transact with the appropriate banks or credit card companies in a fully automated manner.

Once the payment has been effected, the postage in form of a stick is then dispensed from a specific terminal embedded with the multi-function desk or via the network connection through the usual terminal via the output slot of the postage dispenser within the post office, or manually by the employee reading the needed amount and having the payment procedure approved for the customer.

The dispenser may take one or more of a variety of forms. At its simplest, the dispenser may be a conventional stamp dispenser, dispensing postage stamps by way of a continuous ribbon of stamps, with perforations separating each stamp such that the customer may detach them. Alternatively the dispenser may issue custom-printed stamps, franked postage labels, or shipping labels featuring the delivery address (as previously read by the multi-functional desk or inputted by the user) together with an indication of the postage charge having been paid. Direct franking onto an envelope or parcel is also possible.



PCT/IT 03 / 0053

Title: An automated multi-function desk device for use in a post office**Claims**

1. An automated multi-function desk for use in a post office, comprising a processor electrically coupled to each of: an input device operable by a user, a device for weighing items of postage, a device for capturing image, a visual display; the processor being configured to: (a) receive input from weighing device specifying the weighing of an object placed thereon; (b) receive input from image capturing device of an object placed thereon; (c) receive input from the input device specifying other necessary characteristic of the delivery; (d) process the image information in order to recognize dimensions, writing characters and/or symbols from the electronic image captured previously; (e) provide output to the visual display to show image, dimensions, writings and all recognized characteristic from the object placed thereon; and (f) operate the output device to supply storage of retrieved information for further operations.
2. An automated point-of-sale terminal as claimed in Claim 1, including a light manipulation device such as a mirror or a lens in order to reduce multi-function terminal dimensions.
3. An automated multi-function terminal as claimed in Claim 2, wherein the said light manipulation device is a special set of lenses.
4. An automated multi-function desk as claimed in Claim 1, further comprising an output device adapted to print and dispense a payment receipt.
5. An automated multi-function desk as claimed in Claim 1, wherein the image is transferred via mirror or lenses to a image capturing device.
6. An automated multi-function desk as claimed in Claim 1, wherein the processor, the input device, the weighing unit, the image capturing, the payment acceptance device, and the output device are integral in a single unit.
7. An automated multi-function desk as claimed in Claim 6, wherein the integral unit is movable and independent from the desk.
8. A method of facilitate postal services in a post office reducing the intervention of the employee, comprising providing an automated multi-function desk device operable by a worker to: (a) specify the characteristics of a postal delivery; (b) weigh an item of postage; (c) capture an image of postage; (d) process the image and extract information; (e) perform calculation and point out errors; (f) accept payment of a postal charge in respect of the postal delivery; and (g) dispense a printed indication that the postal charge has been paid.

PCT/IT 03 / 00534

Title: An automated multi-function desk device for use in a post office

Abstract

The invention provides an automated multi-function desk for use in a post office, comprising a processor electrically coupled to each of: an input device operable by a user, a device for weighing items of postage, a device for capturing image, a visual display; the processor being configured to: (a) receive input from weighing device specifying the weighing of an object placed thereon; (b) receive input from image capturing device of an object placed thereon; (c) receive input from the input device specifying other necessary characteristic of the delivery; (d) process the image information in order to recognize dimensions, writing characters and/or symbols from the electronic image captured previously; (e) provide output to the visual display to show image, dimensions, writings and all recognized characteristic from the object placed thereon; and (f) operate the output device to supply storage of retrieved information for further operations such as printing, showing, analysing etc. These features may be integrally provided in a single unit. Such apparatus increase the efficiency of desk postal services reducing queue in front of the desk and errors data input. Further advantages for such apparatus is the ability to capture, analyse and show image of object placed thereon from both sides without turning the object itself upside-down.

1/1

Title: An automated multi-function desk device for use in a post office

Fig.1

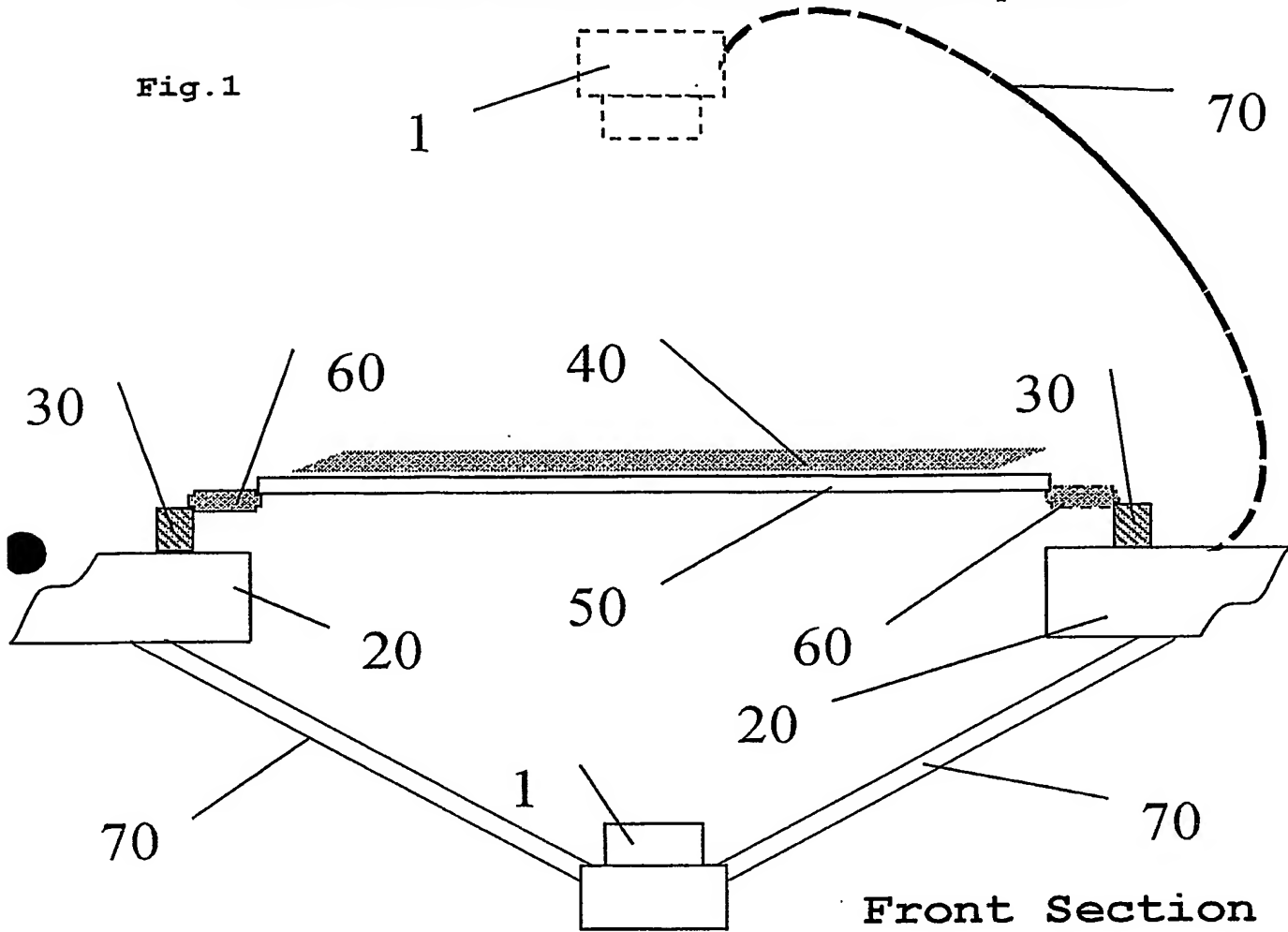


Fig.2

